

### AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions of claims in the application.

#### Listing of Claims:

1. (Currently Amended) A method for the identification of a human subject ~~subjects~~ having Alzheimer's disease responsive to treatment with a cholinomimetic drug, said method comprising determining the apoE allele load of said subject ~~presence of apoE4 gene alleles in said subject~~, wherein the absence of ~~an~~ *apoE4* gene allele in a biological sample of said subject identifies said subject as a subject whose Alzheimer's disease-related cognitive impairment is responsive to treatment with a cholinomimetic drug.

2. (Original) The method of claim 1, wherein said method further comprises administering to said subject having an absence of *apoE4* allele a therapeutically effective amount of a cholinomimetic drug.

3. (Original) The method of claim 2, wherein administration of the cholinomimetic drug improves cognitive performance.

4. (Currently Amended) A method for identifying a patient diagnosed with a cognitive impairment for participation ~~genotyping a patient sample with respect to apoE4 allele~~ in a clinical trial of a drug for the treatment of said cognitive impairment ~~impairments~~, said method comprising:

(a) identifying a patient as already diagnosed with said cognitive impairment ~~impairments~~, or as being predisposed to acquire or to be at risk for said cognitive impairment ~~impairments~~; and

(b) determining the apoE allele load of said patient ~~presence of *apoE4* gene alleles in said patient~~, wherein absence of *apoE4* gene allele indicates said patient is a desired candidate for participation in a clinical trial of a drug for the treatment of said cognitive impairment ~~the genotype of said patient sample with respect to apoE4 allele in a clinical trial of said drug allows the effects of said drug to be compared according to apoE4 genotype.~~

5. (Currently Amended) A method for identifying a patient diagnosed with Alzheimer's disease for participation ~~genotyping a patient sample with respect to apoE4 allele in a clinical trial of a drug for the treatment of Alzheimer's disease, said method comprising:~~

(a) identifying a patient as already diagnosed with ~~said~~ Alzheimer's disease or as being predisposed to acquire or to be at risk for ~~said~~ Alzheimer's disease; and

(b) determining the apoE allele load of said patient ~~presence of *apoE4* gene alleles in said patient~~, wherein absence of *apoE4* gene allele indicates said patient is a desired candidate for participation in a clinical trial of a drug for the treatment of Alzheimer's disease ~~the genotype of said patient sample with respect to apoE4 allele in said clinical trial of a drug for the treatment of said Alzheimer's disease allows the effects of said drug to be compared according to apoE4 genotype.~~

8. (Previously Presented) The method of claims 1, 2, 3, 4, or 5 wherein said drug is tacrine.

9. (New) The method of claims 1, 4, or 5 wherein determining the apoE allele load is by genotyping.